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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/775,168	02/11/2004	Naoto Abe	00862.021864.1	1219

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EXAMINER

SHENG, TOM V

ART UNIT	PAPER NUMBER
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2677

DATE MAILED: 12/30/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

10/775,168

Applicant(s)

ABE ET AL.

Examiner

Tom V. Sheng

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 11 February 2004.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 43-52 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 43-52 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 11 February 2004 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.
- Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
 2. ☒ Certified copies of the priority documents have been received in Application No. 09/534,445.
 3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☒ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date 6/16/2005; 2/11/04.
- 4) ☐ Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____.
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: _____.

DETAILED ACTION

Claim Rejections - 35 USC § 112

1. The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter, which the applicant regards as his invention.

2. Claims 47 and 52 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

As for claims 47 and 52, it is not clear as to how to differentiate between "suffer less deterioration of quality of an image displayed", line 2, and "suffers some deterioration of quality of an image displayed", line 4. In other words, what constitute "less deterioration" and "some deterioration" are not defined. Quality of an image can be defined in numerous aspects such as contrast, brightness, image resolution, pixel size, color resolution, frame rate, and so on.

Claim Rejections - 35 USC § 102

3. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(e) the invention was described in (1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent or (2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effects for purposes of this subsection of an application filed in the United States only if the international application designated the United States and was published under Article 21(2) of such treaty in the English language.

4. Claims 43, 45, 48 and 50 are rejected under 35 U.S.C. 102(e) as being anticipated by Chee et al. (US RE38,108 E).

As for apparatus claim 43 and associated method claim 48, Chee teaches a display apparatus (notebook 10; fig. 1) comprising:

a display panel (LCD 12; column 3, lines 66-67) including a plurality of display elements (inherent liquid crystal elements);

display control means (video display controller 30; fig. 2 and 3; column 4, line 20 through column 5, line 50) for controlling said display panel in a normal display mode (inherent), a first power saving mode (PSM 1, as defined in register 60; fig. 4; column 5, lines 51-67), a second power saving mode (PSM 2 or PSM 3) and a third power saving mode (PSM 4); and

mode transition means (power saving controller 58, PLL timers 66, 68, pin PS1 and PS2, of the video display controller 30; fig. 3 and 6) for causing said display panel to shift to the first power saving mode or the third power saving mode from a normal mode based on an instruction of a user (closing the notebook cover or engaging a shutdown switch engages PSM 1 or PSM 4; column 6, lines 15-34), and causing said display panel to shift to the second power saving mode from the normal mode based on status of said display panel (when inactivity is determined over a selected time interval, mode PSM 2 or PSM 3 would be entered; column 6, lines 1-14 and 35-52).

As for claims 45 and 50, Chee further teaches that the power saving features of each mode is configurable. Specifically as applicable to LCD, power saving features such as memory clock on/off (Mclk), pixel clock on/off (Pclk), LCD backlight on/off

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(LCDbl), LCD on/off (Display off), slower pixel clock (Pclk slow), and reduced gray scale (REDUCE GS) are programmable with respect to each of the power saving modes.

See column 7, line 11 through column 8, line 4.

It would have been obvious, for one of ordinary skill in the art, to use a slower pixel clock (i.e. slower frequency of said drive clock of said display panel) in at least PSM 1 (first power saving mode) and PSM 2 (second power saving mode) whenever a slower display speed is tolerable.

Claim Rejections - 35 USC § 103

5. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

6. Claims 44 and 49 are rejected under 35 U.S.C. 103(a) as being unpatentable over Chee as applied to claim 43 and 48 above, and further in view of Okumura (US 6,331,844 B1).

As for claims 44 and 49, Chee does not teach controlling drive current of each of the display elements in the first and second power saving modes. Okumura teaches power saving in a type of LCD apparatus, where power saving is attained by controlling the current signal instead of voltage signal (fig. 8; column 13, line 25 through column 14, line 25). Therefore, it would have been obvious to one of ordinary skill in the art to

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incorporate Okumura's current control setup, when power control using current signal is desired.

7. Claims 46 and 51 are rejected under 35 U.S.C. 103(a) as being unpatentable over Chee as applied to claim 43 and 48 above, and further in view of Miyamoto (US 6,005,559).

As for claims 46 and 51, Chee does not teach controlling drive voltage of the display panel in the first and second power saving modes. Miyamoto teaches a power conserving display. In particular, Miyamoto's power saving consists of decreasing quantity of backlight, decreasing driving voltage, and increasing the refreshing scanning period (fig. 1; column 3, line 65 to column 4, line 47). It would have been obvious to one of ordinary skill in the art to at least incorporate Miyamoto's control of driving voltage in Chee's notebook computer, as a further compatible option in the control of display power saving.

Conclusion

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Tom V. Sheng whose telephone number is (571) 272-7684. The examiner can normally be reached on 9:00am - 6:00pm.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Amr Awad can be reached on (571) 272-7764. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

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Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

Tom Sheng
December 27, 2005

AMR A. AWAD
PRIMARY EXAMINER

A handwritten signature in black ink, appearing to read 'Amr A. Awad', written in a cursive style.